

claims

1. A bi-directional optical module package having an optical module unit comprising:
- a substrate member;
 - 5 an optical filter installed on the substrate member to be inclined with respect to an optical fiber;
 - a first holder supported by the substrate member on one side of the optical filter and having a laser diode and a lens for transmitting an optical signal to the optical fiber through one side of the optical filter; and
 - 10 a second holder supported by the substrate member on the other side of the optical filter and having a photodiode and a lens for receiving the optical signal received through the optical fiber.
2. The bi-directional optical module package of claim 1, wherein the
15 substrate member and the first and second holders are made of ceramic.
3. The bi-directional optical module package of claim 1, wherein an optical axis of light transmitted from the laser diode and an optical axis of light received from the photodiode are disposed at right angle with respect to each
20 other with the optical filter being interposed therebetween.
4. The bi-directional optical module package of claim 1, wherein the first holder includes a first base portion having a laser diode, a pad and a circuit pattern installed thereon, and first extending portions which extend from both
25 sides of the first base portion to define a fixed position of the lens, and the second holder includes a second base portion having a photodiode installed on an inner surface thereof, and second extending portions which extend from both sides of the second base portion to define a fixed position of the lens.
- 30 5. The bi-directional optical module package of claim 4, wherein inclined planes for fixing a position of the optical filter are formed on at least one side of the first extending portions and at least one side of the second extending portions.

6. A bi-directional optical module package comprising:
an optical fiber which is supported by supporting means;
an optical module unit which has a substrate member, an optical filter, a
5 first holder, and a second holder, the optical filter being installed on the
substrate member to be inclined with respect to the optical fiber, the first holder
being supported by the substrate member on one side of the optical filter and
having a laser diode and a lens for transmitting an optical signal to the optical
fiber through one side of the optical filter, and the second holder being
10 supported by the substrate member on the other side of the optical filter and
having a photodiode and a lens for receiving the optical signal received through
the optical fiber ;
a stem which supports the optical module unit and has a plurality of
pins; and
15 a cover member which is coupled to the stem to surround the optical
module unit, and has an opening formed on a side corresponding to the optical
fiber.

7. The bi-directional optical module package of claim 6, further
20 comprising an auxiliary lens for focusing light in the opening of the cover
member.

8. The bi-directional optical module package of claim 6, wherein the
first holder includes a first base portion having a laser diode, a pad and a circuit
25 pattern installed thereon, and first extending portions which extend from both
sides of the first base portion to define a fixed position of the lens, and the
second holder includes a second base portion having a photodiode installed on
an inner surface thereof, and second extending portions which extend from both
sides of the second base portion to define a fixed position of the lens.

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9. The bi-directional optical module package of claim 8, wherein
inclined planes for fixing a position of the optical filter are formed on at least one
side of the first extending portions and at least one side of the second extending

portions.

10. The bi-directional optical module package of claim 8, wherein the substrate member and the first and second holders are made of ceramic.